## STATUS OF THE CLAIMS

1. (Previously presented) In a computer system, a method for rasterizing primitives, comprising the steps of:

determining if a primitive is totally outside a predetermined screen region or at least partially within the predetermined screen region;

discarding the primitive if the primitive is totally outside the screen region;

finding at least a portion of the primitive that is inside the screen region if the primitive is not totally outside the screen region; and

filling only pixels in the portion of the primitive that is inside the screen region.

2. (Original) The method according to claim 1, wherein in the step of determining if the primitive is inside or outside of the screen region, the method further comprises the steps of:

providing an X, Y coordinate system:

determining values of XSTART, YSTART, XEND, YEND for the primitive, XSTART and XEND defining an X direction extent and location of the primitive in the coordinate system, and YSTART and YEND defining a Y direction extent and location of the primitive in the coordinate system;

providing values of XLEFT, XRIGHT, YTOP, YBOTTOM for the screen region, XLEFT and XRIGHT defining an X direction extent and location of the screen region in the coordinate system, and YSTART and YEND defining a Y direction extent and location of the screen region in the coordinate system; and

comparing the primitive values to the screen region values to determine if the primitive is totally outside the screen region.

3. (Previously presented) The method according to claim 1, wherein the method further comprises the steps of:

defining first and second x direction values of 0 and 1, respectively, for an x direction XDIR in the coordinate system as, respectively, left to right and right to left relative to the screen region, and defining first and second y direction values as 0 and 1, respectively, for a y direction YDIR in the coordinate system as, respectively, top to bottom and bottom to top; and

determining that the primitive is totally outside the screen area if at least one of the following is logically true given a start point X=XSTART and Y=YSTART for the primitive:

XDIR AND ((X<XLEFT) OR (XEND>XRIGHT))

XDIR AND ((X>XRIGHT) OR (XEND>XLEFT))

YDIR AND ((Y<YTOP) OR (YEND>YBOTTOM))

YDIR AND ((Y>YBOTTOM) OR (YEND<YTOP)).

4. (Original) The method according to claim 3, wherein in the step of filling the filling is finished when one of the following is true:

(XDIR AND (X < XLEFT)),

(XDIR AND (X > XRIGHT)),

(YDIR AND (Y < YTOP)),

(YDIR AND (Y > YBOTTOM)).

5. (Previously presented) The method according to claim 4, wherein in the step of finding at least a portion of the primitive that is inside the primitive, given a start point X=XSTART and Y=YSTART for the primitive, the method further comprises the steps of:

(1) incrementing Y if a first value, (((YDIR AND (Y>YBOTTOM)) OR ((YDIR AND (Y<YTOP))), is logically true;

(2) incrementing X if a second value, (((XDIR AND (X>XRIGHT)) OR ((XDIR AND (X<XLEFT))), is logically true; and

(3) repeating steps (1) and (2) until the first and second values are not true, which identifies a beginning of a portion of the primitive that is inside of the screen region.

6. (Previously presented) The method according to claim 4, wherein in the step of filling the filling is finished when one of the following is true:

(XDIR AND (X < XLEFT)),

(XDIR AND (X > XRIGHT)),

(YDIR AND (Y < YTOP)),

(YDIR AND (Y > YBOTTOM)).

7. (Currently amended) The method according to claim 1, wherein the method further comprises the steps of:

defining a start point on an edge of the primitive;

determining if the start point is outside the screen region;

edge walking the edge of the primitive from the start point to a boundary of the screen region; and

span walking a portion of the primitive inside the screen region and filling each pixel in the portion of the primitive that is inside the screen region.

8. (Original) The method according to claim 7, wherein the primitive is a triangle and the start point is a vertex of the triangle.

9. (Original) The method according to claim 1, wherein the primitive is a triangle.

10. (Original) A graphic primitive clipping system that receives primitives and clips the primitives relative to a predetermined screen region, comprising:

a setup engine having an input for receiving a primitive and an output for supplying at least location values of the primitive relative to the screen region;

a primitive locator module having an input operatively connected to the output of the setup engine and having an output for supplying the at least location values only of primitives that are at least partially within the screen region;

an edge walker module having an input operatively connected to the output of the primitive locator module and having an output for supplying data identifying the portion of the primitive inside of the screen region;

a span walker having an input operatively connected to the output of the edge walker and an output for supplying filled pixels for pixels in the portion of the primitive inside of the screen region

11. (Original) The system according to claim 10, wherein the system processes each primitive of a plurality of primitives.

12. (Original) The system according to claim 10, wherein the primitive locator module compares the location values of the primitive to starting and ending values of the screen region values to determine if the primitive is totally outside the screen region.

13. (Original) The system according to claim 12, wherein the primitive and the screen region lie in an X,Y coordinate system, wherein the location values of the primitive are XSTART, YSTART, XEND, YEND, XSTART and XEND defining an X direction extent and location of the primitive in the coordinate system, and YSTART and YEND defining a Y direction extent and location of the primitive in the coordinate system, and wherein the screen region has limit values of XLEFT, XRIGHT, YTOP, YBOTTOM, XLEFT and XRIGHT defining an X direction extent and location of the screen region in the coordinate system, and YSTART and YEND defining a Y direction extent and location of the screen region in the coordinate system, wherein the primitive further is defined by first and second x direction values of 0 and 1, respectively, for an x direction XDIR in the coordinate

system as, respectively, left to right and right to left relative to the screen region, and first and second y direction values as 0 and 1, respectively, for a y direction YDIR in the coordinate system as, respectively, top to bottom and bottom to top, and wherein the primitive is totally outside the screen area if at least one of the following is logically true given a start point X=XSTART and Y=YSTART for the primitive:

XDIR AND ((X<XLEFT) OR (XEND>XRIGHT))

XDIR AND ((X>XRIGHT) OR (XEND>XLEFT))

YDIR AND ((Y<YTOP) OR (YEND>YBOTTOM))

YDIR AND ((Y>YBOTTOM) OR (YEND<YTOP)).

14. (Original) The method according to claim 13, wherein the edge walker module finds at least a portion of the primitive that is inside the primitive, given a start point X=XSTART and Y=YSTART for the primitive, by:

(1) incrementing Y if a first value, (((YDIR AND (Y>YBOTTOM)) OR ((YDIR AND (Y<YTOP))), is logically true;

(2) incrementing X if a second value, (((XDIR AND (X>XRIGHT)) OR ((XDIR AND (X<XLEFT))), is logically true; and

(3) repeating (1) and (2) until the first and second values are not true, which identifies a beginning of a portion of the primitive that is inside of the screen region.

15. (Original) The system according to claim 13, wherein the span walker has filled all pixels in the portion of the primitive inside of the screen region when one of the following is true:

(XDIR AND (X < XLEFT)),

(XDIR AND (X > XRIGHT)),

(YDIR AND (Y < YTOP)),

(YDIR AND (Y > YBOTTOM)).

16. (Previously presented) The method according to claim 13, wherein the primitive is a triangle and the start point is a vertex of the triangle.

17. (Previously presented) The method according to claim 10, wherein the primitive is a triangle.

18. (Previously presented) A graphic primitive clipping system that clips triangular primitives relative to a predetermined screen region, each primitive defined by location values XSTART, YSTART, XEND, YEND, XSTART and XEND defining an X direction extent and location of the primitive in the coordinate system, and YSTART and YEND defining a Y direction extent and location of the primitive in the coordinate system, a

screen region defined by limit values XLEFT, XRIGHT, YTOP, YBOTTOM, XLEFT and XRIGHT defining an X direction extent and location of the screen region in the coordinate system, and YSTART and YEND defining a Y direction extent and location of the screen region in the coordinate system, the primitive further defined by first and second x direction values of 0 and 1, respectively, for an x direction XDIR in the coordinate system as, respectively, left to right and right to left relative to the screen region, and first and second y direction values as 0 and 1, respectively, for a y direction YDIR in the coordinate system as, respectively, top to bottom and bottom to top, comprising:

a primitive locator module having an input for receiving primitives and having an output for supplying only primitives that are at least partially within the screen region, primitives being totally outside the screen area if at least one of the following is logically true given a start point X=XSTART and Y=YSTART for a primitive:

XDIR AND ((X<XLEFT) OR (XEND>XRIGHT))

XDIR AND ((X>XRIGHT) OR (XEND>XLEFT))

YDIR AND ((Y<YTOP) OR (YEND>YBOTTOM))

YDIR AND ((Y>YBOTTOM) OR (YEND<YTOP));

an edge walker module having an input operatively connected to the output of the primitive locator module and having an output for supplying data identifying the portion of the primitive inside of the primitive, the edge walker module structured such that at least a portion of the primitive that is inside the primitive, given a start point X=XSTART and Y=YSTART for the primitive, being found by:

(1) incrementing Y if a first value, (((YDIR AND (Y>YBOTTOM)) OR ((YDIR AND (Y<YTOP))), is logically true;

(2) incrementing X if a second value, (((XDIR AND (X>XRIGHT)) OR ((XDIR AND (X<XLEFT))), is logically true; and

(3) repeating steps (1) and (2) until the first and second values are not true, which identifies a beginning of a portion of the primitive that is inside of the screen region; and

a span walker having an input operatively connected to the output of the edge walker and an output for supplying filled pixels for pixels in the portion of the primitive inside of the screen region, the span walker having filled all pixels in the portion of the primitive inside of the screen region when one of the following is true:

(XDIR AND (X < XLEFT)),

(XDIR AND (X > XRIGHT)),

(YDIR AND (Y < YTOP)),

(YDIR AND (Y > YBOTTOM)).

19. (Previously presented) The system according to claim 17, wherein the start point is a vertex of the primitive.

20. (Previously presented) In a computer system, a method for rasterizing primitives, comprising the steps of:

determining if a primitive is totally outside a predetermined screen region or at least partially within the predetermined screen region;

discarding the primitive if the primitive is totally outside the screen region;

finding at least a portion of the primitive that is inside the screen region if the primitive is not totally outside the screen region; and

when a start vertex for edgewalking the primitive is outside of the screen region, then starting edgewalking with the start vertex and proceeding to an intersection point with the screen region and the primitive at which time only the portion of the primitive that is inside the screen region is filled, wherein if the start vertex of the primitive is inside of the screen region, then filling only pixels in the portion of the primitive that is inside the screen region.

21. (Previously presented) The method according to Claim 20, wherein filling only pixels in the portion of the primitive that is inside the screen region ends when all pixels within the portion of the primitive inside the screen region have been filled.